PREFACE

Thank you for your purchase of the HYT TC-780 professional portable radio. This easy-to-use radio will deliver you secure, instant and reliable communications at peak efficiency. Please read this manual carefully before use. The information presented herein will help you to derive maximum performance from your radio.

MODELS COVERED IN THIS MANUAL

TC-780 VHF Two-way Radio

TC-780 UHF Two-way Radio

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Safety and General Information

The following general safety precautions as would normally apply, should be observed during all phases of operation, service and repair of this equipment.

- ◇ This equipment should be serviced by qualified technicians only.
- ◇ Do not modify the radio for any reason.
- ◇ Use only HYT original batteries and chargers.
- ◇ Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.
- ◇ Turn off your radio prior to entering any area with a potentially explosive atmosphere.
- ◇ Do not charge your battery in a potentially explosive atmosphere.
- ◇ To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio in any facility where posted notices instruct you to do so.
- ◇ When instructed to do so, turn off your radio when on board an aircraft. Any use of a radio must be in accordance with airline regulations or crew instructions.
- ◇ To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted: “Turn off two-way radio.” Obey all signs and instructions.
- ◇ For vehicles with an air bag, do not place a radio in the area over an air bag or in the air bag deployment area.
- ◇ Do not expose the radio to direct sunlight over a long time, nor place it close to heating source.
- ◇ When transmitting with a portable radio, hold the radio in a vertical position with the microphone 3 to 4 centimeters away from your lips. Keep antenna at least 2.5 centimeters away from your body when transmitting.

WARNING: If you wear a radio on your body, ensure the radio and its antenna is at least 2.5 centimeters away from your body when transmitting.

Product Inspection

Please unpack the package box carefully and check that all items shipped were received; report any missing or damaged items to your dealer.

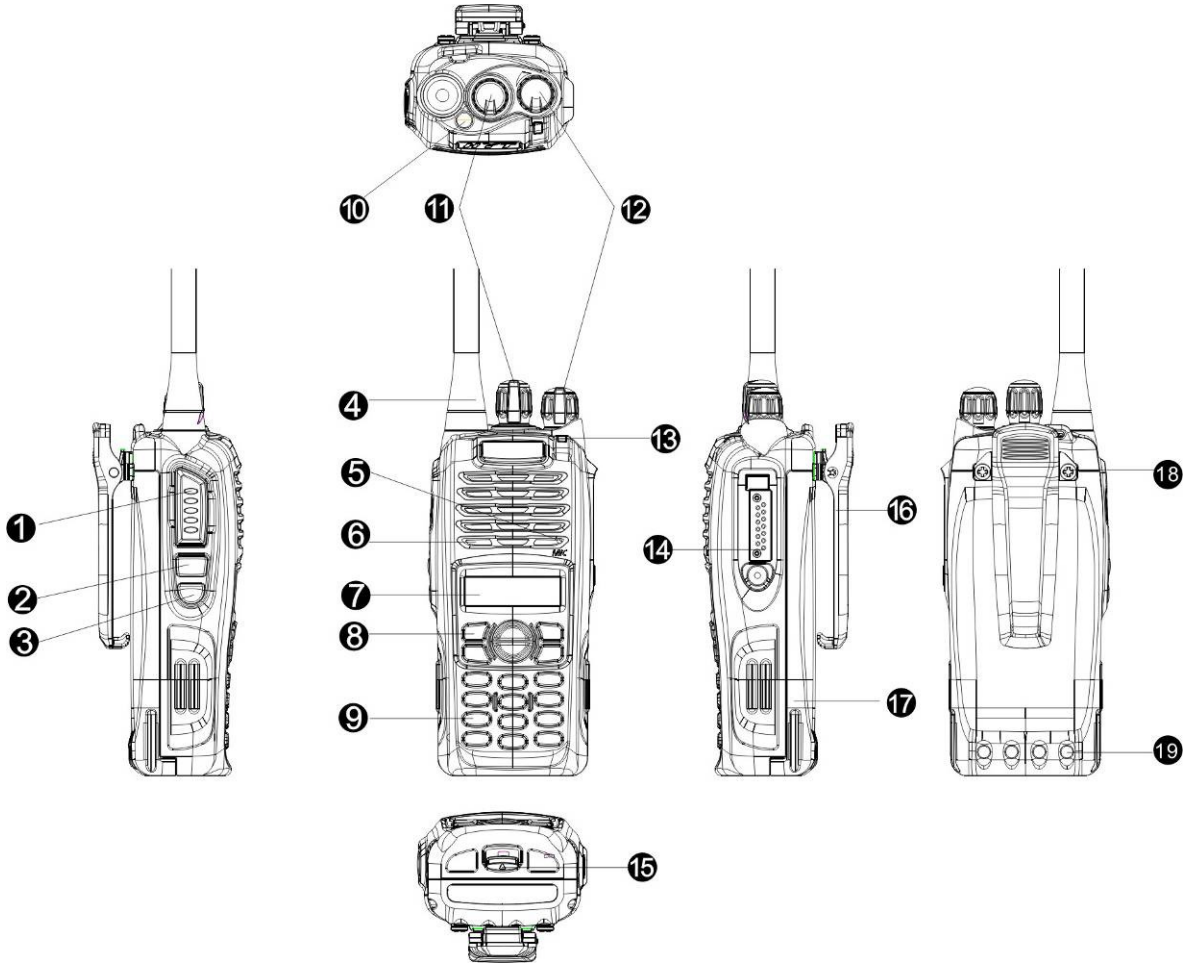
Accessories

Item	Qty. (PCS)
Antenna	1
Belt Clip	1
Leather Strap	1
Li-Ion Battery	1
MCU Rapid-rate Charger	1
Switching Power	1
Owner's Manual	1

Antenna	Li-Ion Battery (1700mAh)	MCU Rapid-rate Charger	Switching Power (100-240V) (for use with different power cords in different countries and areas)
Belt Clip	Leather Strap		

Note: Frequency band is marked on the label of antenna, if not, identify the frequency band according to the color circle. Please refer to the label on the radio unit for detailed frequency band information.

Radio Overview



① PTT (Push-to-Talk) Key	② SK1 (Side Key 1)	③ SK2 (Side Key 2)	④ Antenna
⑤ Microphone	⑥ Speaker	⑦ LCD Display	⑧ Function Keypad
⑨ Numeric Keypad	⑩ TK (Top Key)	⑪ Channel Selector Knob	⑫ Radio On-Off /Volume Control Knob
⑬ LED Indicator	⑭ Accessory Jack	⑮ Battery Latch	⑯ Belt Clip
⑰ Battery	⑱ Screw, Belt Clip	⑲ Charging Piece	

*** PTT (Push-to-Talk) Key**

Press and hold down the **PTT** key to transmit; release it to receive.

*** SK1 (Side Key 1)**

Programmable function key.

*** SK2 (Side Key 2)**

Programmable function key.

*** LCD Display**

Used to display radio status information.

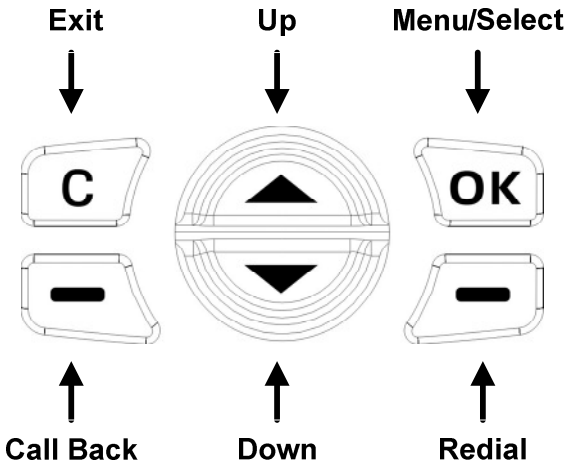
*** Function Keypad**

- **Exit key**

  Use the **Exit** key to return to the previous menu.

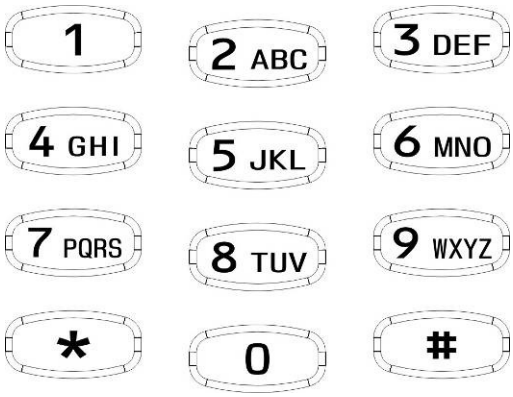
- **Up key**
- **Down key**
- **Menu/Select key**

  Used to enter the menu mode. When you are in the menu mode, this key is also used to make menu selections.



*** Numeric Keypad**

Used to enter information for programming the radio's lists.



＊ TK (Top Key)

Programmable function key.

＊ Channel Selector Knob

Rotate the knob to select a desired channel.

＊ Radio On-Off/Volume Control Knob

Rotate the knob clockwise to turn the radio on, and rotate the knob fully counter-clockwise until a click is heard to turn the radio off.

Turn the knob clockwise to increase the volume, or counter-clockwise to decrease the volume.

＊ LED Indicator

The following table indicates LED mode and corresponding radio status:

Status	LED
Transmit	Red
Receive	Green
Low battery alert	Flash red
After transmitting a call (within auto reset time)	Orange
After receiving a call (within auto reset time)	Flash orange slowly
Missed call alert	Flash orange rapidly
Scan	Flash green

＊ Accessory Jack

The jack is used to connect audio accessories, or other accessories such as programming cable.

Battery Information

Initial Use

New batteries are shipped uncharged from the factory. Charge a new battery for 5 hours before initial use. The maximum battery capacity and performance is achieved after three full charge/discharge cycles. If you notice the battery power runs low, please recharge the

battery.

Applicable Battery Packs

To reduce the risk of injury, charge only the battery specified by the manufacturer. Other batteries may burst, causing bodily injury and damage.

Caution:

1. To avoid risk of personal injury, do not dispose of batteries in a fire!
2. Dispose of batteries according to local regulations (e.g. recycling). Do not dispose as household waste.
3. Never attempt to disassemble the battery.

Battery Tips

1. When charging your battery, keep it at a temperature among 5℃-40℃. Temperature out of the limit may cause battery leakage or damage.
2. When charging a battery attached to a radio, turn the radio off to ensure a full charge.
3. Do not return a battery to the charger before the battery power runs low. This action will significantly reduce battery life. Never take the charger as a stand for your radio.
4. Never charge a battery that is wet. Please dry it with soft cloth prior to charge.
5. The battery will eventually wear out. When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery.

To Prolong Battery Life

1. Battery performance will be greatly decreased at a temperature below 0℃. A spare battery is necessary in cold weather. The cold battery unable to work in this situation may work under room temperature, so keep it for later use.
2. The dust on the battery contact may cause the battery cannot work or charge. Please use clean dry cloth to wipe it before attaching the battery to the radio.

Battery Storage

1. Fully charge a battery before you store it for a long time, to avoid battery damage due to over-discharge.
2. Recharge a battery after several months' storage (Ni-MH & Ni-Cd batteries: 3 months; Li-Ion & Li-polymer batteries: 5 months), to avoid reducing battery capacity due to

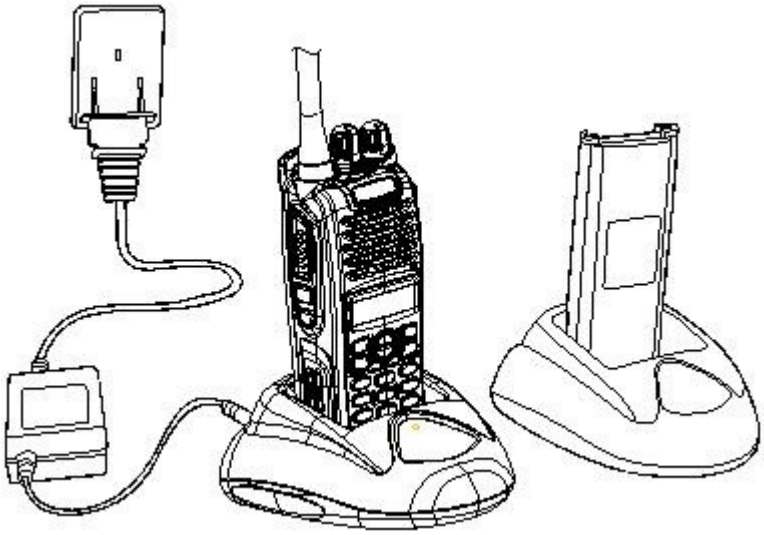
over-discharge.

3. When storing your battery, keep it in a cool, dry place under room temperature.

Charging the Battery

Use only the charger specified by the manufacturer. The charger's LED indicates the charging progress.

Status	Charger LED	
Standby (no-load)	Red LED flashes slowly (0.2s on/3s off)	
Battery is charging	Red LED solidly glows	
Battery is fully charged	Green LED solidly glows	
Error	Red LED flashes rapidly (0.2s on/0.2s off)	



Please follow these steps:

1. Plug the power cord into the adapter.
2. Plug the AC connector of the adapter into the AC outlet socket.
3. Plug the DC connector of the adapter into the DC socket on the back of the charger.
4. Place the radio with the battery attached, or the battery alone, in the charger.
5. Make sure the battery is in well contact with the charging terminals. The charging

process initiates when the red LED lights.

6. The greed LED lights about 3 hours later indicating the battery is fully charged. Then remove the radio with the battery attached or the battery alone from the charger.

Troubleshooting (MCU intelligent rapid-rate charger only):

When troubleshooting, always observe the color of the LED:

No LED Indication?

1. Make sure that the power cord is plugged into an appropriate AC outlet.

Red LED flashes rapidly (0.2s on/0.2s off)?

1. Remove the battery from the charger, and:
   a) Make sure that it is a HYT authorized battery. Other batteries may not charge.
   b) Remove power from the battery charger, and clean the gold metal, charging contacts of the battery and charger, using a clean dry cloth.
2. The battery temperature may be above 45℃.
3. Defective battery. Please replace it with a new one.
4. Power up the charger and place the battery back into the charger pocket. If the LED indicator continues to flash red, replace the battery.

Note:

- When the battery charger detects the proper battery conditions, rapid charging begins automatically (steady red LED).
- If the battery temperature is above 45℃, the charger will report the fault by flashing red LED rapidly (0.2s on/0.2s off), and will not charge until the battery temperature is below 45℃, with red LED solidly glows (Ni-MH battery only).

Antenna Information

1. Stubby antenna is ideal for communication within limited range. Thin and long antenna optimizes communication coverage, and its flexible and soft characteristic makes it ideal for wearing your radio on the belt.
2. Communication range may vary with terrain and your operating conditions. Rainy days or forest locations may narrow your communication range, please make

preparation in advance to avoid potential inconvenience.

Assembly and Disassembly

Attaching the Battery

1. When attaching the battery, make sure the battery is in parallel and good contact with the aluminum chassis. The battery bottom is about 1 to 2 centimeters below the bottom of the radio's body.
2. Align the battery with the guide rails on the aluminum chassis and slide it upwards until a "click" is heard.
3. The battery latch at the bottom locks the battery. See figure 1.

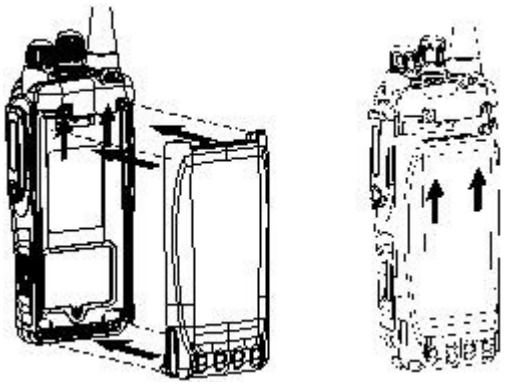


Figure 1

Removing the Battery

1. Turn off the radio before removing the battery.
2. Slide the battery latch, at the bottom of the radio's body, in the direction indicated by the arrow.
3. Slide down the battery for about 1 to 2 centimeters, and then remove the battery from the radio's body. See figure 2.

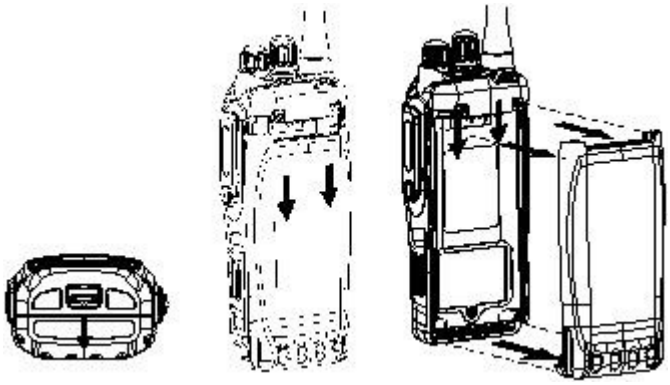


Figure 2

Attaching the Antenna

1. Align the threaded end of the antenna with the radio's antenna connector.
2. Turn the antenna clockwise to fasten it. See figure 3

Removing the Antenna

Turn the antenna counter-clockwise until you can remove it. See figure 3

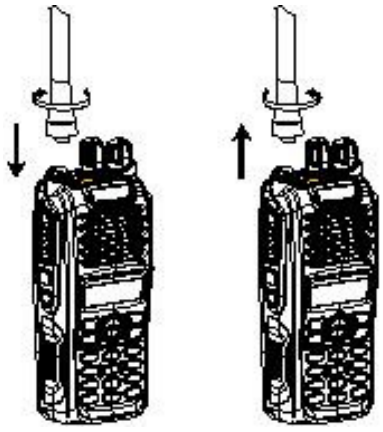


Figure 3

Attaching the Belt Clip

1. Remove the screws (belt clip) on the radio's body.
2. Align the screw holes on the metal holder of belt clip with those on the radio's body.
3. Tighten the screws. See figure 4.

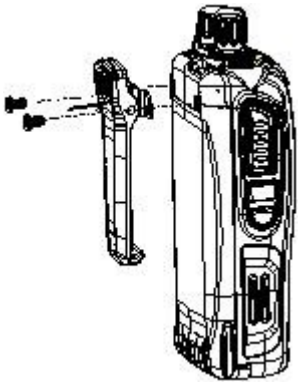


Figure 4

Removing the Belt Clip

1. Remove the screws (belt clip).
2. Remove the belt clip. See figure 5.

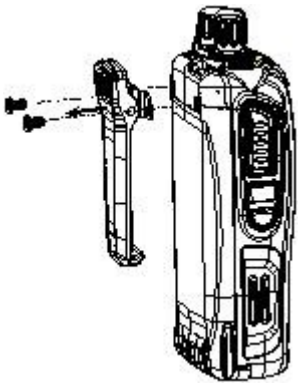


Figure 5

Removing the Accessory Cover

1. Unscrew the screw on the accessory cover counter-clockwise with a flat head screwdriver.
2. Remove the accessory cover. See figure 6.

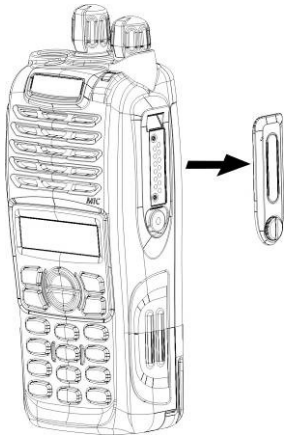


Figure 6

Attaching the Earpiece/Microphone

1. Insert the tab at the bottom of the earphone/microphone into the slot on the radio.
2. Align the screw at the top of the earphone/microphone with the threaded hole on the radio.
3. Rotate the screw clockwise to fasten. See Figure 7.

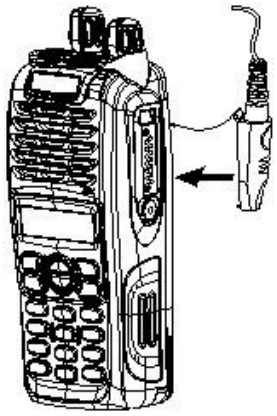


Figure 7

Note: The figures above are only for references. Please make the object as the standard.

LCD Icons

The LCD displays 17 status icons in all and 8 characters at most simultaneously, each with fixed display position. The display priority is from high to low, as from the top row to the bottom row in the table. When a high priority status appears, the icon for the low priority status will not be displayed until the high priority status disappears.

	At the leftmost side of LCD	…	…	…	…	…	…	At the rightmost side of LCD
High Priority				P:				
…								
…								
Low Priority								

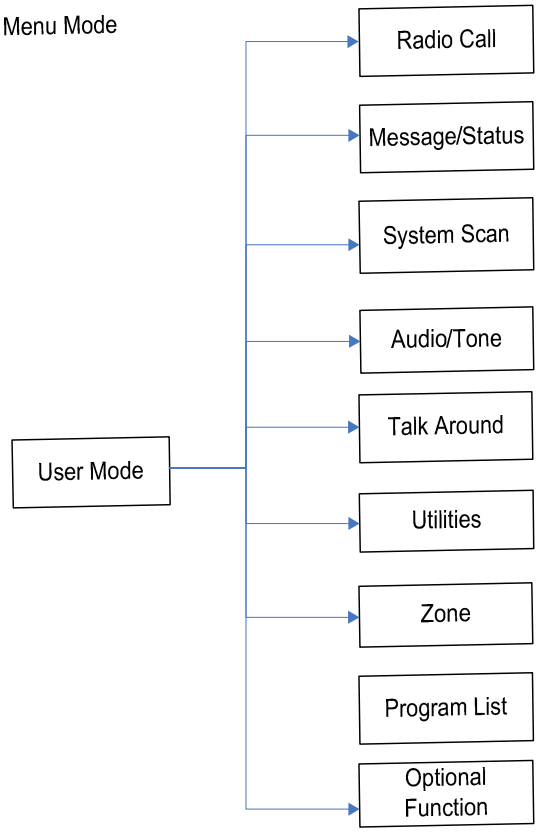
Icons & Indications

Icon	Indication
	Signal Strength Indicator
	DTMF Keypad Indicator
	Short Message Indicator
	Scan Indicator
P:	Priority Scan Indicator
	Monitor and Squelch Open Indicator
	Transmit Power Indicator
	Keypad Lock Indicator
	Emergency Indicator
	Talk Around Indicator
	Accessory Jack Indicator
	Scrambler Indicator
	Vibrate Indicator
	Compandor Indicator

	Home Channel Indicator
	Transmit Inhibit Indicator
	Battery Strength Indicator

Menu

Menu Navigation Chart:



Key	Function
OK	Select
C	Exit
▲/▼	Used to switch among function options.

Keypad Keys

Key	Function
OK	**Menu/Select** key. Press the **Menu/Select** key to go to the next menu, or make selections.
C	**Exit** key. Use the **Exit** key to cancel or return to the previous menu.
◄	**Left** key. Press the **Left** key under an input interface to delete an entry. This key can also be programmed as a programmable function key.
►	**Right** key. Press the **Right** key under an input interface to move the cursor right. This key can also be programmed as a programmable function key.
▲	**Up** key. Press the **Up** key to scroll through menus when in Menu Mode.
▼	**Down** key. Press the **Down** key to scroll through menus when in Menu Mode. This key can also be programmed as a programmable function key.
0-9	Used to enter numbers or characters.
*	Used to enter numbers or characters.
#	Used to enter numbers or characters. Press # and OK to lock the keypad.

Menu Display

Top Menu (as the LCD shows)	Sub-Menu (as the LCD shows)	Description of Sub-Menu
Radio Call	Call List Type: HDC2400	Select call list type. Select HDC2400 call list.
	Call List Type: HDC1200	Select HDC1200 call list.
	Call List Type: DTMF	Select DTMF call list.
	Call List Type: 2-Tone	Select 2-Tone call list.
Message/Status	Short Message	Select the Short Message feature.
	Status Message	Select the Status Message feature.

System Scan	System Scan Enable	Select whether to enable the Scan feature.
Audio/Tone	Button Beep (On/Off)	On/Off
	Voice Compandor (On/Off)	On/Off
	Alert (On/Off)	On/Off
Talk Around	On	Enable the Talk Around feature.
	Off	Disable the Talk Around feature.
Utilities	Squelch Level	Available options are: Off/Loose/Tight
	Radio Lock	Enable/disable password protection.
	Radio Information	Version and serial number of the radio.
	Backlight	Enable/disable the backlight.
	Vibrate	Enable/disable the Vibrate feature.
	Transmit Power	Select the transmit power level from High, Medium, Low.
	Scrambler	Enable/disable the Scrambler feature on the current channel.
Zone	Zone (1/n)	Select the current zone.
Program List	Call List	Edit the alias and alert tone correlative with a Call List.
	Scan List	Add, delete or edit priority channel for a Scan List.
Optional Function	GPS Device	Display GPS Information
	Patrol Device	Control patrol record
	Encryption Device	On/Off

General Radio Operations

Selecting a Channel

Your radio offers up to 256 channels. Turn the **Channel Selector** knob clockwise or counterclockwise to select a desired channel.

Transmitting a Call

To transmit, press and hold down the **PTT** key, and speak into the microphone at your normal voice level.

Hold the radio about 2.5 to 5 centimeters away from your mouth.

Receiving a Call

Release the **PTT** key to receive.

Talk Range:

Flat ground with no obstructions	Up to 10 kilometers
Residential area (close to buildings）	Up to 5 kilometers
Inside multi-level buildings	Up to 20 floors

Note: Range will vary based on terrain and conditions and model selected.

Programmable Auxiliary Functions

The **TK, SK1, SK2, P1, P2** and **P3** keys are programmable function buttons. Your dealer may assign one of the following auxiliary functions to a short or long, momentary or toggle programmable button-press. See Advanced Operations for details.

- Off
- Power Adjust
- Select Squelch Level

- Backlight
- Call 1
- Call 2
- Call 3
- Call 4
- Call 5
- Channel Menu Shortcut
- Voice Compandor
- Scan Add/Delete
- Channel Down
- Channel Up
- Display Channel Alias
- Display Channel Frequency
- Switch Display
- DTMF Keypad
- Exit Emergency
- Enable Emergency
- Disable Emergency Alarm
- Enable Emergency Alarm
- Voice Encryption
- GPS Report
- Home Channel
- Keypad Lock
- Lone Worker
- Man Down
- Short Message
- Monitor
- Monitor Momentary
- Nuisance Channel Temporary Delete
- Radio Call

- Scan
- Scrambler
- Squelch Off
- Squelch Off Momentary
- Carrier Squelch Level
- Status List
- Talk Around
- Vibrate
- Volume Down
- Volume Up
- VOX
- Whisper
- Zone Down
- Zone Up
- Inverted Display

Advanced Operations

The following functions are programmable by your dealer.

Power Adjust

A press of the programmed **Power Adjust** key switches the transmit power level among high, medium and low.

Select Squelch Level

Press the **Select Squelch Level** key to change the squelch level.

Backlight

Press the **Backlight** key to turn the LCD backlight on or off.

Call 1- Call 5

Press the programmed **Call 1**-**Call 5** key to transmit the assigned call.

Channel Menu Shortcut

Press the **Channel Menu Shortcut** key to go to the Channel menu. Input a channel number under the Channel menu, and then a press of OK shall cause the radio to go to the channel.

Voice Compandor

Press the **Voice Compandor** key to enable/disable the Voice Compandor feature.

Note: The Voice Compandor feature enables crisper, clearer and stronger audio quality, allowing users to continue communicating even in noisy conditions.

Scan Add/Delete

Press the **Scan Add/Delete** key when in non-scan mode, to temporarily add the current channel to the Scan List, or temporarily delete it if it is already in the current Scan List.

Channel Down

Press the **Channel Down** key to select a lower numbered channel in the order in which channels appear in the Channel List.

Channel Up

Press the **Channel Up** key to select a higher numbered channel in the order in which channels appear in the Channel List.

Display Channel Alias

Press the **Display Channel Alias** key to display the alias correlative with the current channel.

Display Channel Frequency

Press the **Display Channel Frequency** key to display the transmit or receive frequency of the current channel.

Switch Display

Press the **Switch Display** key to switch the display among Channel Number, Channel Alias, Zone Number, Zone Alias, and Channel Frequency.

DTMF Keypad

Press the **DTMF Keypad** key to switch the keypad to DTMF keypad.

Exit Emergency

Press the **Exit Emergency** key while in emergency mode to exit emergency mode.

Enable Emergency

Press the **Enable Emergency** key while in non-emergency mode, to activate emergency mode.

Disable Emergency Alarm

Press the **Disable Emergency Alarm** key while in emergency alarm status, to promptly cancel emergency alarm.

Enable Emergency Alarm

Press the **Enable Emergency Alarm** key to promptly activate emergency alarm.

Voice Encryption

Press the **Voice Encryption** key to toggle the Voice Encryption feature on or off.

Note: This feature is only available to radios equipped with digital encryption option.

GPS Report

Press the **GPS Report** key to send GPS data, which is displayed on the LCD while transmitting.

Note: Only for radios with GPS remote speaker microphone.

Home Channel

Press the **Home Channel** key to switch between the currently selected channel and the defined Home Channel.

Keypad Lock

Press the **Keypad Lock** key to toggle the keypad locked or unlocked. When the keypad is locked, all attempts as keypad operation or knob selection, will be ignored.

Lone Worker

Press the **Lone Worker** key to toggle the Lone Worker feature on or off.

Man Down

Press the **Man Down** key to toggle the Man Down feature on or off.

Short Message

Press the **Short Message** key to go to the Short Message menu.

Monitor

The **Monitor** key press functions as follows:

- Press the **Monitor** key while in non-auto reset mode to enter Monitor Mode, and press it again to exit Monitor Mode.
- Press the **Monitor** key while in auto reset mode to cancel a call.

Monitor Momentary

The **Monitor Momentary** key press functions as follows:

- Hold down the **Monitor Momentary** key while in non-auto reset mode to enter Monitor Mode, and release it to exit Monitor Mode.
- Press the **Monitor Momentary** key while in auto reset mode to cancel a call.

Nuisance Channel Temporary Delete

While the radio waits on a scanned channel, press the **Nuisance Channel Temporary Delete** key to temporarily delete the channel from the Scan List. The radio continues scanning the remaining channels in the Scan List. To resume scanning the temporarily deleted channel, exit and then reactivate Scan Mode.

> Note: You cannot perform a Nuisance Channel Temporary Delete if there are only one or two remaining channels in the Scan List.

Radio Call

Press the **Radio Call** key to go to the Call List menu.

Scan

Press the **Scan** key to toggle the Scan feature on or off.

Scrambler

Press the **Scrambler** key to toggle the Scrambler feature on or off.

> Note: In order for members of your own group to understand your call while you are using the Scrambler, all other members must also activate the Scrambler on their radios. When activated, non-group members listening on your channel will be unable to understand your conversation.

Squelch Off

Press the **Squelch Off** key to toggle the Squelch on or off.

Press this key while in auto reset mode to cancel a call.

Squelch Off Momentary

Hold down the **Squelch Off Momentary** key to turn the Squelch off, and release it to exit Squelch Off status.

Press the **Squelch Off Momentary** key while in auto reset mode to cancel a call.

Carrier Squelch Level

Press the **Carrier Squelch Level** key to view the carrier squelch level defined for the current channel.

Status List

Press the **Status List** key to go to the Status List menu.

Talk Around

Press the **Talk Around** key to toggle the Talk Around feature on or off.

> Note: When Talk Around feature is enabled, the receive frequency and the Rx CTCSS/CDCSS are used in place of the transmit frequency and the Tx CTCSS/CDCSS respectively when transmitting.

Vibrate

Press the **Vibrate** key to enable the Vibrate feature. The radio shall vibrate when it receives an incoming call.

Volume Down

Press the **Volume Down** key to decrease the volume.

Volume Up

Press the **Volume Up** key to increase the volume.

VOX (Voice-Operated Transmit)

Press the **VOX** key to toggle the VOX feature on or off.

Whisper

Press the **Whisper** key to toggle the Whisper feature on or off.

Zone Down

Press the **Zone Down** key to select a lower numbered zone.

Zone Up

Press the **Zone Up** key to select a higher numbered zone.

Inverted Display

Press the **Inverted Display** key to reverse the LCD of 180 degrees.

Background Operations

Selecting a Zone

Access Zone operations via the radio menu. Press ▲ to select a lower numbered zone, while press ▼ to select a higher numbered zone. When the radio returns to the home screen, it shall jump to the first channel of the current zone.

Selecting a Channel

When the radio standby, press ▲ to select a lower numbered channel, while press ▼ to select a higher numbered channel. Your may also change channel via the **Channel Selector** knob.

Sending a Voice Call

1. Select a channel used for transmitting a call.
2. Press and hold down the **PTT**, and then speak into the microphone.
3. LED glows red when transmitting.
4. Release the **PTT** to receive. If auto reset mode is enabled for the current channel, the auto reset timer shall be activated. Meanwhile, the LCD displays the icon, and the LED glows orange.

Receiving a Voice Call

If CTCSS/CDCSS, 2-Tone, DTMF, HDC1200 or HDC2400™ signaling is set for the current channel, a signaling match is required on an incoming signal for the radio to unmute. If signaling is not set, the radio can receive calls from all users operating on the same frequency. You may adjust the volume through the **Volume Control** knob.

Channel Scan

Each channel can be assigned with a Scan List. Each Scan List may contain up to 32 channels. Channels may have the same Scan List or different ones. Scan proceeds according to the Scan List assigned to the channel where the scanning starts.

- **Scan Type**

1. Normal Scan

The Normal Scan mode allows the user to hear calls on Scan List members where the squelch open condition occurs.

2. Vote Scan

Not available on this radio.

- **Scan Start**

The radio emits a programmable alert when scanning initiates. During the scan sequence, LCD displays the icon, and LED flashes green. When a match signal is detected on a Scan List member, or press the **PTT/Call** key to transmit, LCD displays the current channel number.

Start radio scan by the following methods:

1. Key press

When radio standby, press the **Scan** key on a channel assigned with a Scan List, to start scan.

2. Auto

If Auto Scan is enabled for a channel assigned with a Scan List, the radio shall automatically initiate scanning when it switches to the channel.

3. Menu selection

- **Scan Exit**

The radio emits a programmable alert when it exits scanning, with the icon extinguished.

Exit scanning by the following methods:

1. Press the **Scan** key during scan process.
2. When the radio switches to a channel where a Scan List is not set, or a channel where the Auto Scan is disabled, the radio shall exit Scan Mode.
3. Menu selection
4. Press the **Call** key to encode.
5. Press the **PTT** to encode, except for PTT ID.
6. Receive the Stun code.
7. Activate the Emergency feature.
8. Turn the radio off.

- **Scan Pause**

Entering the main menu while in Scan Mode, shall cause the radio to pause scanning. The radio shall resume scanning when it exits the main menu.

- **Hang Scan**

If a match signal is detected on a Scan List member, or press the **PTT** or **Monitor** key, the radio shall wait on the channel. The radio displays "**P•**" if it waits on the Priority Channel 1, or "**P:**" if it waits on the Priority Channel 2.

Note: To assure scan speed, adjacent channel frequency should not be above 30MHz.

Emergency

- **Activate Emergency**

The **Emergency** key can be programmed by your dealer. You may activate Emergency by the following methods:

1. Press the **Emergency** key (long or short) to activate the Emergency Mode.
2. Activate Emergency while in Lone worker mode. See Lone Worker for details.
3. Activate Emergency while in Man Down mode. See Man Down for details.

- **Exit Emergency**

The radio shall return to the original channel after it exits the Emergency Mode. You may exit Emergency by the following methods:

1. Press the **Emergency** key (long or short) again to exit the Emergency Mode.
2. Receive the Exit Emergency code while in Emergency Mode.
3. The radio shall automatically exit Emergency Mode after the programmed Limit Emergency Cycle expires.
4. Place the radio vertically to exit Emergency while in Man Down mode.
5. Turn the radio off.

- **Emergency Mode**

After the radio enters the Emergency Mode, it shall switch to the preset Emergency Channel. The Emergency process is divided into four stages: Transmit ID, Transmit Alarm, Transmit Surrounding Audio, Forcibly Receive. The number of times the radio cycles among the stages is programmable by your dealer. Available emergency modes are:

1. No emergency alarm shall be transmitted.
2. Emergency alarm is heard from the local speaker.
3. Emergency alarm shall be heard from the receiving party.
4. Emergency alarm shall be heard from both transmitter and receiver.
5. If the Discreet Emergency is enabled, the radio shall enter the Discreet Emergency

mode.

Time-out Timer (TOT)

Limits the amount of time the radio user can continuously transmit on a channel. If the user holds down the **PTT** longer than the preprogrammed limit, the radio automatically stops transmitting. The TOT feature is null while in Emergency Mode.

- **Time-out Timer**

If the user holds down the **PTT** longer than the preprogrammed limit, the radio automatically stops transmitting, and generates a warning tone until the **PTT** is released.

- **TOT Pre-Alert Time**

The radio will emit the Pre-Alert Tone at the programmed TOT Pre-Alert time.

- **TOT Re-key Time**

This timer is used to prevent the user from re-keying the radio, for the TOT Re-key Time set after the allowed transmit time has expired.

- **TOT Reset Time**

If the time interval between two transmissions is less than the TOT Reset Time, they shall be deemed as a continuous transmission.

Battery Save

This feature can be enabled by your dealer. The Battery Save feature is automatically activated once no activity on the channel and no operation performed (no key press and no knob selection) within the specified period.

Pressing any key or receiving a signal will restore the radio to normal operation and exit from Battery Save.

Troubleshooting

Symptom	Solution
Cannot power on the radio.	● The battery runs out. Please recharge the battery or replace it with a new one. ● The battery is not properly installed. Please remove the battery and attach it again.
The operating time is noticeably shorter than normal, even though the battery is properly charged.	● The battery has worn out. It is time to buy a new battery.
Cannot talk to or hear group members.	● Make sure that your radio operates on the same frequency and has the same CTCSS/CDCSS settings with your group members. ● Make sure you are within the communication range.
Hear non-group members	● Please change your CTCSS/CDCSS settings, and so as your group members.

Care and Cleaning

- Do not handle the radio by its antenna or external earpiece directly.
- Do not place the radio in a dusty or dirty environment.
- Clean the radio with a lint-free cloth to remove dirt or grease, to avoid poor contact due to excessive dust.
- Clean the radio using a lint-free cloth moistened with clean water and a mild dishwashing liquid.
- Avoid subjecting the radio to corrosives, solvents or spirits.

Optional Accessories

Antenna	Belt clip BC09	Ni-MH Battery (1800mAh) BH1801	Li-Ion Battery (2100mAh) BL2102
MCU Multi-unit Charger (for Li-Ion/Ni-MH batteries) MCA03	Switching Power PS7501 (for use with different power cords for different countries and areas)	Vehicle Adapter CHV09	Earbud with in-Line PTT ESN05
Earbud with on-MIC PTT ESN06	Earpiece with on-MIC PTT & Transparent Acoustic Tube EAN04	D-earset with in-Line Microphone & PTT EHN07	D-earset with Boom Microphone & in-Line PTT EHN08

2-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige/black) EAN05/EAN07	3-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige/black) EAN06/EAN02	2-Wire Earpiece with Wireless Earphone and Neck Loop (beige) EWN03	Bone-induction Earpiece with in-Line PTT EBN01
Light-weight Throat-Vibrating Earpiece with in-Line PTT ELN02	Heavy Duty, Noise-Cancelling Headset ECN08	Behind-the-Head, Noise-Cancelling Headset ECN09	Remote Speaker Microphone SM08N1
Receive-only Earpiece (for use with remote speaker microphone) ESS07	Receive-only Earpiece with Transparent Acoustic Tube (for use with remote speaker microphone) ESS08	Leather Carrying Case (swivel) (for keypad and display models) LCBY22	Chest Pack LCBN13

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